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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,516	01/30/2002	Herbert F. Cattell	10010010-1	3692

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AGILENT TECHNOLOGIES, INC.
Legal Department, DL429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599

EXAMINER

NEGIN, RUSSELL SCOTT

ART UNIT PAPER NUMBER

1631

DATE MAILED: 10/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/066,516

Applicant(s)

CATTELL, HERBERT F.

Examiner

Russell S. Negin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,12,16,18,22,29 and 33 is/are rejected.
- 7) ☒ Claim(s) 2,5-11,13-15,17,19-21,23-28,30-32 and 34-38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

NOTES

In view of the appeal brief filed on April 22, 2005, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 C.F.R. 1.111 (if this Office action is non-final) or reply under 37 CFR 1.113 (if this Office action is final); or;
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief; but no new amendments, affidavits (37 CFR 1.130, 1.131, or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

This office action is in response to an appeal brief filed on April 27, 2005. Any objections and rejections still valid from previous office actions will be reiterated here if valid. Claims 1-38 are pending in this application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 12, 16 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gazeau (WO 01/67065 A1) in view of Puppini and Vavassori (Measurement Science Technology, 1, 1990, 1371-1372). For the above mentioned WIPO document, quotations will be taken from its continuation in the US as the published application 2003/0059930.

Claims 1 and 22 claim a method and apparatus, respectively, for reading a chemical array, transferring signal data to a memory, and automatically retrieving and analyzing this signal data while simultaneously examining a second array. In the appeal brief, the applicant's main argument for these independent claims is that the sources in the previous action did not disclose the simultaneity of reading the array while data for another array is being analyzed. The references disclosed in the current Office action, however, do make the claimed invention unpatentable regarding this limitation.

The device of Gazeau is an automated device for processing, signal acquisition, and analysis of biochips. Paragraph 0017 (page 1, col 2, fifth paragraph) states, "This invention pertains to an automated device capable of processing biochips without human intervention and acquiring signals for their subsequent analysis. The automated device enables processing of a large number of biochips in addition to cost savings in terms of reagents." Thus, this device does show an automation for processing of bioarrays similar to that is claimed in Claims 1 and 22. However, the device does not reveal the simultaneity key to the applicant's idea.

The second prior art reference of Puppini and Vavassori describes a program for simultaneous data acquisition and analysis on a computer for physics laboratories [page

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1371, lines 1-5]. The article describes the benefits of simultaneous acquisition and analysis and shows an example program. The computation and program is intended for use in the sciences (specifically physics laboratories, first sentence of article body), and for that matter, has motivation to be applied in other aspects of science, including biophysical experimentations such as bioarrays.

Claims 12 and 16 suggest a similar procedure with multiple chemical arrays at multiple reading stations. Since both of these claims state nothing about simultaneity about running these multiple chemical arrays together, it can be assumed that it is possible to practice the claims and not to run the analyses concurrently. Thus, having multiple quantities of the invention of Gazeau hooked up to a computer would describe these two claims sufficiently. The secondary reference of Puppini and Vavassori follows from above in demonstrating the concurrence of data acquisition and analysis.

Thus, it would have been obvious to someone of ordinary skill in the art at the time of the instant invention to practice Claims 1, 12, 16, and 22 thus resulting in the practice of the instantly claimed invention with a reasonable expectation of success.

Claims 3, 4, 18, 29, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ermolaeva et al.; taken in view of Bowtell; further in view of Affymetric® Array Scanner or GenePix™ Pro Array Analysis Software/GenePix™ 4000B Array Scanner, *In re Venner* [262 F.2d 91, 95, 120], and Yakhini et al. [USPN 6,591,196]

Ermolaeva et al. is herein applied from the previous office action. Ermolaeva et al. describes a microarray data management and analysis system (i.e. hub), wherein a

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relational database was designed to allow for flexibility in data input and generation reports through a web-browser interface (Abstract; page 20, left col, lines 9-12; and page 23, left col lines 31-36). Bowtell reviews the specifications of several specific readers/scanner and software provided for the analysis of microarrays (pages 31-32, right col, line 6, and Table 5).

The Affymetrix® 428TM Array Scanner established that array readers/scanners, at the time of invention, contain computer processors and data storage memory devices. The GenePixTM Pro Array Analysis Software/GenePixTM 4000B Array Scanner established that array readers/scanners, at the time of invention, contain computer processors and the provided software for the extraction of feature characteristics from arrays.

With respect to Applicant's arguments regarding "automated"/"automation" it appears Applicant believes that, for example, array scanning and feature extraction are performed separately by manual activation (i.e. manual activation of scanning followed by manual activation of feature extraction). Applicant is directed to:

M.P.E.P. 2144.04 Automating a Manual Activity: *In re Venner*, 262 F.2d 91, 95, 120 USPQ 193, 194 (CCPA 1958)... "The court held that broadly providing an automatic or mechanical means to replace a manual activity which accomplished the same result is not sufficient to distinguish over the prior art...."

The replacement of, for example, the manual activation of scanning followed by the manual activation of feature extraction would accomplish the same result if "automated," and therefore, is not sufficient to distinguish over the prior art.

Thus, it would have been obvious to someone of ordinary skill in the art at the time of the invention to practice Ermolaeva et al. array data management system in view of the above mentioned supporting documents. Claims 3, 4, 18, 29, and 33 are therefore rejected.

Even if the decision of *In re Venner* did not occur, the automated feature extraction system of chemical arrays did exist in a form before the filing date of this application. US Patent 6,591,196, filed by Yakhini et al of Agilent Technologies on June 6, 2000 describes in column 3, lines 14-18, "One body of the present invention comprises a method and system for automated feature extraction from scanned images...of molecular arrays." Thus, Agilent Technologies in significant capacity has automated feature extraction in a previous patent application.

NOTE: This above applied reference [USPN 6,591,196] has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104,

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together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Claim Objections

Claims 2, 5-11, 13-15, 17, 19-21, 23-28, 30-32, and 34-38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion:

No Claim is Allowed

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the central PTO Fax Center. The faxing of such pages must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993)(See 37 CFR § 1.6(d)). The Central PTO Fax Center Number is (571) 273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russell Negin, Ph.D., whose telephone number is (571) 272-1083. The examiner can normally be reached on Monday-Friday from 7am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Ardin Marschel, Ph.D., Supervisory Patent Examiner, can be reached at (571) 272-0718.

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Any inquiry of a general nature or relating to the status of this application should be directed to Legal Instrument Examiner, Tina Plunkett, whose telephone number is (571) 272-0549.

Information regarding the status of the application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information on the PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

R. Negin 10/7/05




ARDIN H. MARSCHEL
SUPERVISORY PATENT EXAMINER